

## PATENT ABSTRACTS OF JAPAN

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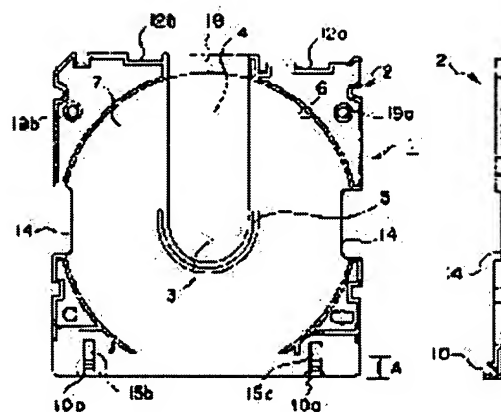
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## (54) CARTRIDGE FOR RECORDING MEDIUM

## (57)Abstract:

PROBLEM TO BE SOLVED: To simplify the loading/unloading of a recording medium against a cartridge by forming the structure of a hinge of the cartridge with slit-like recessed parts arranged around the edge part of a case or a cover and projected parts of the cover or the case capable of engaging with these recessed parts.

SOLUTION: This cartridge 1 consists of the case 2 for accepting the disk-like recording medium and the cover 3 for covering the upper part of the case 2. The hinge member is formed in such a manner that the slit-like recessed parts 10a, 10b arranged on at least two positions on the lower part of the case 2 and the projected parts arranged on the positions corresponding to the slit-like recessed parts 10a, 10b on the lower part of the cover are aligned to engage the projected parts with the recessed parts 10a, 10b respectively, then the cover is allowed to open or close against the case 2 through the hinge member. Alternatively, the projected parts may be arranged on the case 2 and the slit-like recessed parts may be arranged on the cover.



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CLAIMS

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[Claim(s)]

[Claim 1] It is the cartridge for record media which is a cartridge for containing a disc-like record medium, is equipped with the case where it has the retaining wall in which a record medium is laid, and the lid connected with the case with hinge structure, and is characterized by hinge structure consisting of a slit-like crevice prepared a case or near the edge of a lid, and heights which can fit into said crevice established in the lid or the case pivotable.

[Claim 2] The cartridge according to claim 1 which comes to prepare the holddown member which consists of the tongue-shaped piece receptacle section which engages with resilient tongue and this resilient tongue the different side from the edge in which hinge structure was prepared.

[Claim 3] The cartridge according to claim 1 or 2 characterized by preparing a notch so that the periphery edge of a record medium may be exposed to the side face of a pair in which a case counters.

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## DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to the receipt case of the record medium which was applied to the case for containing disc-like record media, such as an optical disk, especially enabled the receipts and payments of a record medium in a case.

[0002]

[Description of the Prior Art] As a record medium using optics, there are a compact disk only for playbacks (CD), a write-once form optical disk (WO), a magneto-optic disk (MO), etc. Among the record media using these optics, CD holds the disk itself in a case, and is sold, and the disk itself is taken in and out also of a regenerative apparatus. However, it does not consider as the structure where the disk of WO or MO with which it is common considering as the structure of taking a disk in and out of record and a regenerative apparatus with the gestalt held in the cartridge with a disk as for record media (disk), such as other WO(s) and MO form, and a record regenerative apparatus is not held in a cartridge, either is acceptable.

[0003] For this reason, once this kind of cartridge holds a disk, it has assembly \*\*\*\* structure by the structure which cannot remove a disk easily, i.e., a screw stop, joining, etc. When examining a disk, the activity of taking out again after an assembly and a trial in the gestalt held in a cartridge which mentioned all the disks above has the problem which serves as an inefficient activity extremely. Moreover, in general use, a cartridge is damaged, and an inner disk has problems, like use of a disk becomes impossible in practice, when unhurt. The cartridge which can be opened and closed in order to improve these troubles is proposed by JP,6-302141,A. The cartridge of this proposal fabricates a case and a lid separately, both are attached by joining or adhesion by tabular hinge region material, and closing motion of a lid is enabled by this hinge region material to the case.

[0004]

[Problem(s) to be Solved by the Invention] However, adhesion or the assembly process for carrying out joining is required of hinge region material in a case and a lid, and it is necessary to prepare hinge region material separately, and there is a problem that the number of components increases, in the cartridge of the above-mentioned proposal. If it is furthermore in this cartridge, the technical problem that it is hard to take a record medium in and out of the record-medium installation section on a case also occurs. (That is, since dirt will adhere and trouble will arise in informational record and playback if a finger touches a disk side, it is necessary to insert in the diameter direction of a disk and to deal with it, and inferior to the handling workability in the above-mentioned cartridge)

It aims at offering the cartridge of the record medium a record medium can be taken in and out of which easily, without this invention's solving the trouble of such a conventional technique, and an assembly's being able to do a case and a lid easily, without making the number of assembly components increase, and touching the disk side of a record medium.

[0005]

[Means for Solving the Problem] The summary of this invention is a cartridge for containing a disc-like

record medium, it has the case where it has the retaining wall in which a record medium is laid, and the lid connected with the case with hinge structure, and hinge structure consists in the cartridge for record media characterized by to consist of a slit-like crevice prepared a case or near the edge of a lid, and heights which can fit into said crevice established in the lid or the case pivotable.

[0006] Hereafter, it explains to a detail per cartridge of this invention using a drawing. Drawing 1 is the top view (a) and side elevation showing an example of the case which constitutes the cartridge of this invention (b). one in drawing -- a cartridge and 2 -- a case and 3 -- opening and 4 -- opening for heads, and 5 -- a retaining wall and 6 -- a peripheral wall and 7 -- an inferior-surface-of-tongue plate and 8 -- a lid and 9 -- in resilient tongue and 12, the tongue-shaped piece receptacle section and 13 show the overhang section, and, as for heights and 10, 14 shows [ a slit-like crevice and 11 ] a notch, respectively.

[0007] The cartridge 1 of this invention consists of a wrap lid 8 the upper part of the case 2 where a disc-like record medium is received, and a case 2. It is made by carrying out usually carrying out injection molding using thermoplastic synthetic resin etc., a case 2 is seen superficially, and an appearance makes a rectangle mostly. The part which receives a disc-like disk at least is opened wide, a peripheral wall 6 is formed in the perimeter of a case 2, and the upper part of a case 2 is maintaining predetermined height.

[0008] Opening 3 is formed in the location equivalent to a part for the attaching part-ed held at the spindle of the record and the regenerative apparatus which exists at the core of the disc-like disk held in the inferior-surface-of-tongue plate 7 of a case 2, and the retaining wall 5 which consists of a protruding line for forming a gap between a disc-like disk and the inferior-surface-of-tongue plate 7 so that record / playback side of the held disc-like disk may not contact the inferior-surface-of-tongue plate 7 is formed in the perimeter of this opening 3.

[0009] Furthermore, the opening 4 for the head for record / playback to act on a disc-like disk is formed in the inferior-surface-of-tongue plate 7. Although this opening 3 for attaching part-ed parts and the opening 4 for heads may be formed independently, it is usually continuously prepared from location-relation. The upper part of such a case 2 is established in a lid 8 at a wrap sake. A lid 8 may be the plate with which the appearance agreed with the case 2, although what usually has a case 2 and symmetrical structure is used. What is necessary is just to make the depth of a case 2 deep, when it constitutes a lid 8 from a plate with thickness thinner than a case etc.

[0010] In this invention, the slit-like crevices 10a and 10b established in the lower part of a case 2 at least two places and the heights 9a and 9b prepared in the location corresponding to the slit-like crevices 10a and 10b at the lower part of a lid 8 are doubled. The slit-like crevices 10a and 10b are made to carry out fitting of the heights 9a and 9b, respectively, hinge region material is formed and closing motion of a lid 8 is enabled to a case 2 through hinge region material. Although the above-mentioned explanation was given the example which established the slit-like crevice in the case 2, heights may be prepared in a case 2 and a slit-like crevice may be established in a lid 8. Drawing 2 and drawing 3 show an example of the structure of hinge region material, fit the heights 9a and 9b prepared in this lid 8 into the slit-like crevices 10a and 10b established in the case 2, respectively, and form hinge region material. The effectiveness of the stopper which prevents that the heights 9a and 9b which fitted in by making narrower the entrance side of the slit-like crevices 10a and 10b separate from Crevices 10a and 10b is achieved. Moreover, by making the inside of a slit-like crevice large more, closing motion of a lid 8 can be made very easy. Fitting of Crevices 10a and 10b and Heights 9a and 9b can be made easy by while forming the slit-like crevices 10a and 10b furthermore, and supporting a wall by the elastic support material 15a and 15b.

[0011] Although Puncturing 16a and 16b is formed in the side of Heights 9a and 9b, when this opens a lid 8, it is because the wall of the slit-like crevices 10a and 10b is held and a lid 8 can be opened and closed. Such a device is needed in order to prepare hinge region material inside the periphery of a cartridge. In case the slit-like crevices 10a and 10b or Heights 9a and 9b carry out injection molding of a case 2 or the lid 8 with synthetic resin etc., respectively, they can really be fabricated and can be formed.

[0012] Moreover, as shown in drawing 4 and drawing 5 , when closing a lid 8 in a case 2 through hinge

region material, in order to prevent that a lid 8 opens with the elasticity of hinge region material, it is good to carry out fitting of the resilient tongues 11a and 11b prepared in the top face of a lid 8 to the tongue-shaped piece receptacle sections 12a and 12b prepared in the upper part of this case 2, and to consider as the condition which can be blockaded. The tubed acceptance sections 19a and 19b are formed in Projections 8a and 8b and an opposed face, and it is good for the inside of a case 2 or a lid 8 also as alignment with a case 2 and a lid 8, and bond part material at the time of lidding.

[0013] In the location which closed the lid 8 to the case 2, opening for heads is usually prepared like a case 2. Moreover, it is desirable that the retaining wall 5 is formed in the part which counters the part in which the retaining wall 5 of a case 2 was formed like a case 2. What is necessary is to carry out that a retaining wall 5 is made from synthetic resin etc., and a lid 8 pastes up by post processing cases, such as the quality of the material of a case 2, and the different quality of the material, for example, metal etc., etc., and to just be prepared. When a lid 8 is made from synthetic resin etc., of course, what is necessary is just to form a retaining wall in one.

[0014] Since the illustrated cartridge 1 prepared hinge region material a case 2 and inside the rim of a lid 8, when it opens a case 2 and a lid 8, the part outside the heights 9a and 9b of a lid 8 will rotate toward the downward case 2, the peripheral wall comrade of the rim of a lid will contact a case, and a lid 8 will not open it. Therefore, it must consider as the structure which removed the peripheral wall of the rim (part shown in drawing 1 by A) of the side in which the hinge region material of a case 2 is prepared. Of course, it is good also as structure (or whether it prepares and structure made sufficiently low) which removed the peripheral wall of the rim by the side of a lid 8.

[0015] Furthermore, when opening a lid 8, and the disk is not held, it is satisfactory, but when the disk is held, the rim of the side in which the hinge region of a lid 8 was prepared will follow on opening a lid 8, will rotate toward a disk, and will contact a disk. Therefore, it is also important to consider as the structure where notching 17 is formed in the rim of a lid 8, and a lid 8 does not contact a disk.

[0016] Moreover, it is also desirable to form the back up plate 18 because of reinforcement of opening 4 part. Although it is desirable to usually be prepared in a case 2 side at both a case 2 and the lid 8 at least as for this back up plate 18, that sum total thickness is good whether it is equivalent to the thickness of the disk held, and to consider as less than [ it ]. This is important in order to make actuation of the record reproducing head smooth.

[0017] Furthermore, in this invention, the notch 14 for enabling it to pinch on both sides of the record medium laid on the retaining wall 5 of this record medium with a finger in the diameter direction is formed in the side part of the pair of the case 2 of the above-mentioned cartridge. It is possible by this notch's 14 having entered even inside radial rather than the periphery edge of the inferior-surface-of-tongue plate 7 of a record medium, for example, inserting the thumb in one notch 14, and inserting an index finger or the middle finger in the notch 14 of another side to pinch a record medium in the diameter direction.

[0018] In addition, in order to insert a fingertip in a notch 14 as above-mentioned, it is suitable for the inlet-port width of face of the direction of the verge of the case 2 of this notch 14 that 18-25mm especially costs 15-30mm. However, if it is when inserting tips, such as a large-sized pincette, in notches 12 and 12 and pinching a record medium in the diameter direction, the above-mentioned width of face may be range other than the above. It is desirable to form the overhang section 13 which stands face to face against the notch 14 of a case 2 in a lid 8 in this invention. That is, the overhang section 13 can \*\*\*\*\* on a notch 14 at a lid 8, and the periphery section of the record medium which pushed out to the notch 14 by this can be protected.

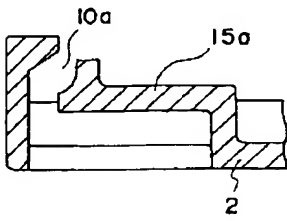
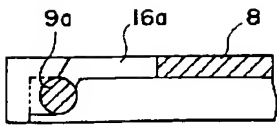
[0019]

[Effect of the Invention] According to the cartridge of this invention, the receipts and payments to the cartridge of a record medium are easy, and it is very convenient when the cartridge of the case where a record medium is applied to a testing device, or a record medium needs to be exchanged.

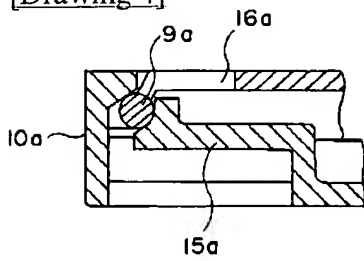
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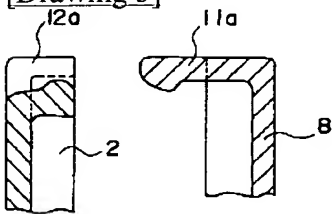




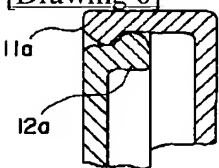
[Drawing 4]



[Drawing 5]



[Drawing 6]



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